Developing Procedures for Water Quality Reporting for National Parks

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Biographical Sketch of Presenting Author
Dwane Young is an environmental scientist with 5 years of experience in environmental research. He currently is developing database applications for the National Park Service and U.S. Environmental Protection Agency (EPA). He has extensive experience with Visual Basic programming and database design, including Oracle, Access, and SQL Server databases.

Mr. Young also supports EPA's total maximum daily load (TMDL), 305(b), and water quality programs and has contributed to geographic information system (GIS) waterbody reach indexing work. He is responsible for analyzing the Water Quality Standards Database and the TMDL database to ensure consistency with reach indexing work. Mr. Young also has extensive experience with EPA's STOrage and RETrieval Database (STORET). He has helped several states port their data into STORET. He has maintained the EPA air docket and has managed confidential business information (CBI) for several maximum achievable control technology (MACT) standards. Mr. Young studied natural resource policy as an intern for Senator Robert F. Bennett, assisted in urban water development for North Logan City, and assisted in agricultural experiments for the Agriculture Research Service.

Abstract
The National Park Service (NPS) Water Resources Division (WRD) has a program that is responsible for reporting on water quality in National Parks. The program has used customized software procedures for efficiently and effectively retrieving water quality data from various federal data sources and building reports. The WRD has already prepared more than 200 of these reports. The reports prepared to date have been developed with procedures that extracted and processed data from legacy data systems. The WRD is updating these procedures based on the evolution of the databases that house the data of interest. New procedures have been developed to retrieve data from EPA's Modernized STORET (National Data Warehouse and Legacy Data Center) database, the USGS National Water Information System (NWIS), and other data sources, perform QA/QC for retrieved data, analyze data with summary statistics, tabular output, and plots, and create customized reports for each National Park. The retrievals: are based on user-defined geographic boundaries; include ancillary data (e.g., dams, flow gages, permitted dischargers); and support harmonization of data from the various sources. The resulting procedures, hyperlinked text documents, and database provide an important foundation for integrating monitoring information into water management activities in National Parks. This presentation will describe the procedures employed and present examples of reporting features and assessment activities being pursued in the National Park system, and in doing so, provide an example for those interested in accessing, working with, and reporting on the wealth of data and information housed in federal water related data systems.

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